GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: August 9, 2003, 16:11:13 ; Search time 53.7429 Seconds
(without alignments)
56.115 Million cell updates/sec

Title: US-09-905-691-2
Perfect score: 19
Sequence: 1 ARAARRAARAAARRARAEA 19

Scoring table: OLIGO
Gapop 60.0 , Gapext 60.0

Searched: 1107863 seqs, 158726573 residues

Word size : 0

Total number of hits satisfying chosen parameters: 1107863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	19	100.0	19	21	AAY87840	Heparin binding pe
2	19	100.0	19	23	AAB71428	Peptide Bis-Arg He
3	16	84.2	16	23	AAB71430	Peptide Tris-Arg H
4	15	78.9	15	23	AAB71432	Peptide Arg Helix
5	10	52.6	11	20	AAY25078	Transduction prote
6	10	52.6	11	21	AAB29419	Synthetic transduc
7	10	52.6	11	21	AAY93547	Amino acid sequenc
8	10	52.6	11	22	AAE05278	Human immunodefici
9	10	52.6	11	23	AAU76085	Peptide transport
10	10	52.6	11	24	ABP56078	Protein transducti
11	10	52.6	19	19	AAW41503	Heparin binding pe
12	10	52.6	19	21	AAY87836	Heparin binding pe
13	10	52.6	19	23	AAB71429	Peptide Bis-Arg He
14	9	47.4	11	20	AAY25077	Transduction prote
15	9	47.4	11	21	AAB29418	Synthetic transduc
16	9	47.4	11	21	AAY93546	Amino acid sequenc
17	9	47.4	11	22	AAE05277	Human immunodefici
18	9	47.4	11	23	ABG78988	Cell penetrating p
19	9	47.4	11	23	AAU76084	Peptide transport
20	9	47.4	11	23	AAM48625	Anti-inflammatory
21	9	47.4	11	23	AAM48626	Anti-inflammatory
22	9	47.4	11	24	ABP56077	Protein transducti
23	9	47.4	17	23	AAM48643	Anti-inflammatory
24	9	47.4	17	23	AAM48644	Anti-inflammatory
25	9	47.4	19	21	AAY87834	Heparin binding pe
26	9	47.4	22	23	AAM48636	Anti-inflammatory
27	9	47.4	22	23	AAM48637	Anti-inflammatory
28	9	47.4	92	20	AAY39179	M. tuberculosis an
29	9	47.4	92	20	AAY39036	M. tuberculosis re
30	9	47.4	105	23	ABU05688	M. tuberculosis an
31	9	47.4	160	20	AAY39186	M. tuberculosis an
32	9	47.4	160	20	AAY39043	M. tuberculosis re
33	9	47.4	190	24	ABP56096	PTD5-VP3 fusion pr
34	8	42.1	13	23	AAE23211	HIV-1 tat peptide
35	8	42.1	15	21	AAB08179	Peptide modulating
36	8	42.1	21	19	AAW41506	Heparin binding pe
37	8	42.1	21	21	AAY87839	Heparin binding pe
38	8	42.1	71	22	AAU46667	Propionibacterium
39	8	42.1	262	23	ABJ10474	Breast cancer - CA
40	8	42.1	262	23	AAU10338	Novel human CASB74
41	8	42.1	262	24	AAE33614	Human CASB7439 pro
42	8	42.1	272	22	AAU49513	Propionibacterium
43	8	42.1	361	23	AAU10339	Novel human CASB74
44	8	42.1	450	24	ABJ37118	NOVX protein seque
45	8	42.1	450	24	ABP57347	Human secreted pro

ALIGNMENTS

RESULT 1
AAY87840
ID AAY87840 standard; peptide; 19 AA.
XX
AC AAY87840;
XX
DT 01-SEP-2000 (first entry)
XX
DE Heparin binding peptide Bis-Arg helix #2.
XX
KW Heparin binding peptide; antagonist; cardiovascular; coagulant;
KW bleeding wound; vascular anastomoses; leaking prosthetic vascular graft;
KW protamine substitute; treatment.
XX
OS Synthetic.
XX
PN EP999219-A2.
XX
PD 10-MAY-2000.
XX
PF 01-OCT-1999; 99EP-0119514.
XX
PR 06-OCT-1998; 98US-0166930.
XX
PA (COMM-) COMMONWEALTH BIOTECHNOLOGIES INC.
XX
PI Harris RB, Sobel M;
XX
DR WPI; 2000-306006/27.
XX
PT New heparin binding molecules, useful for reducing heparin content in a
PT mammal by reducing the anticoagulant effects of heparin -

```
XX
PS   Example 1; Fig 1a; 39pp; English.
XX
CC   This invention describes novel heparin binding molecules (I). The
CC   molecules (I) are useful as heparin antagonist drugs for cardiovascular
CC   application and specifically neutralize heparin's conventional
CC   anticoagulant properties. (I) are also useful for counteracting actions
CC   of heparin locally e.g. in bleeding wounds, vascular anastomoses or
CC   leaking prosthetic vascular grafts. (I) is also useful combined in a
CC   pharmaceutical composition with insulin, as a substitute for protamine
CC   for use in treating diabetics. The heparin binding molecules (I)
CC   specifically neutralize heparin's conventional anticoagulant properties
CC   without causing deleterious hemodynamic side-effects or exacerbation of
CC   the proliferative vascular response to injury. (I) are short-duration,
CC   intravenous drugs to be used in elective or emergency situations which
CC   can safely and specifically neutralize heparin's proliferative response
CC   to injury. This sequence represents a heparin-binding peptide described
CC   in the method of the invention.
XX
SQ   Sequence   19 AA;

  Query Match             100.0%;  Score 19;  DB 21;  Length 19;
  Best Local Similarity   100.0%;  Pred. No. 3.6e-10;
  Matches   19;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ARAARRAARAAARRARAEA 19
              ||||||||||||||||||||
Db          1 ARAARRAARAAARRARAEA 19


RESULT 2
AAB71428
ID   AAB71428 standard; peptide; 19 AA.
XX
AC   AAB71428;
XX
DT   27-NOV-2002  (first entry)
XX
DE   Peptide Bis-Arg Helix #2 fragment #1.
XX
KW   Sepsis; branched chain peptide; antibacterial; immunosuppressive;
KW   endotoxin; helix peptide.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   19
FT                   /note= "Ala is modified by unidentified R1 group"
XX
PN   EP1232754-A2.
XX
PD   21-AUG-2002.
XX
PF   14-FEB-2002; 2002EP-0251027.
XX
PR   14-FEB-2001; 2001US-268410P.
XX
PA   (COMM-) COMMONWEALTH BIOTECHNOLOGIES INC.
XX
PI   Harris RB,  Wolz RL,  Wolz G;
XX
DR   WPI; 2002-659478/71.
XX
PT   Use of cationic helix peptides for treatment of sepsis and for the
PT   detection and removal of endotoxins  -
XX
PS   Disclosure; Fig 1A; 18pp; English.
XX
CC   This invention describes a novel use of antibacterial and
CC   immunosuppressive peptides designated Arg Helix 2, Bis Arg Helix 2,
CC   Tetra-Arg Helix 2 or Tris-Arg Helix 3 for the manufacture of a medicament
CC   for the treatment of sepsis and the detection and removal of endotoxins.
CC   The peptides of the invention are used in a method for detecting
CC   endotoxin in a sample comprising contacting the sample with a labelled
CC   helix peptide and then detecting the presence of any labelled molecule
CC   bound to endotoxin. The peptides can also be used in a method for
CC   removing endotoxin in a sample which comprises exposing the sample to a
CC   helix peptide, bound to a solid support, then collecting the sample. The
CC   endotoxin removal may be in vivo, or the peptides may be used to form an
CC   affinity trap for endotoxins in e.g. dialysis-type treatments, or for
CC   removal of endotoxins from plasma fractionation products. They are also
CC   used as model frameworks for endotoxin binding from which new analogues
CC   may be designed. This sequence represents the peptide Arg Helix #2 which
CC   is used in the construction of Bis-Arg Helix #2, a branched chain peptide
CC   described in the method of the invention.
XX
SQ   Sequence   19 AA;

  Query Match             100.0%;  Score 19;  DB 23;  Length 19;
  Best Local Similarity   100.0%;  Pred. No. 3.6e-10;
  Matches   19;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ARAARRAARAAARRARAEA 19
              ||||||||||||||||||||
Db          1 ARAARRAARAAARRARAEA 19


RESULT 3
AAB71430
ID   AAB71430 standard; peptide; 16 AA.
XX
AC   AAB71430;
XX
DT   27-NOV-2002  (first entry)
XX
DE   Peptide Tris-Arg Helix #3 fragment.
XX
KW   Sepsis; branched chain peptide; antibacterial; immunosuppressive;
KW   endotoxin; helix peptide.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   16
FT                   /note= "Ala is modified by unidentified R1 group"
XX
PN   EP1232754-A2.
XX
PD   21-AUG-2002.
XX
PF   14-FEB-2002; 2002EP-0251027.
XX
PR   14-FEB-2001; 2001US-268410P.
XX
PA   (COMM-) COMMONWEALTH BIOTECHNOLOGIES INC.
XX
PI   Harris RB,  Wolz RL,  Wolz G;
XX
DR   WPI; 2002-659478/71.
XX
PT   Use of cationic helix peptides for treatment of sepsis and for the
PT   detection and removal of endotoxins  -
XX
PS   Disclosure; Fig 1B; 18pp; English.
XX
CC   This invention describes a novel use of antibacterial and
CC   immunosuppressive peptides designated Arg Helix 2, Bis Arg Helix 2,
CC   Tetra-Arg Helix 2 or Tris-Arg Helix 3 for the manufacture of a medicament
CC   for the treatment of sepsis and the detection and removal of endotoxins.
CC   The peptides of the invention are used in a method for detecting
CC   endotoxin in a sample comprising contacting the sample with a labelled
CC   helix peptide and then detecting the presence of any labelled molecule
CC   bound to endotoxin. The peptides can also be used in a method for
CC   removing endotoxin in a sample which comprises exposing the sample to a
CC   helix peptide, bound to a solid support, then collecting the sample. The
CC   endotoxin removal may be in vivo, or the peptides may be used to form an
```

CC affinity trap for endotoxins in e.g. dialysis-type treatments, or for
CC removal of endotoxins from plasma fractionation products. They are also
CC used as model frameworks for endotoxin binding from which new analogues
CC may be designed. This sequence represents the peptide Arg Helix #3 which
CC is used in the construction of Tris-Arg Helix #3, a branched chain
CC peptide described in the method of the invention.
XX
SQ Sequence 16 AA;

Query Match 84.2%; Score 16; DB 23; Length 16;
Best Local Similarity 100.0%; Pred. No. 1.2e-07;
Matches 16; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 4 ARRAARAAARRARAEA 19
||||||||||||||||
Db 1 ARRAARAAARRARAEA 16

RESULT 4
AAB71432
ID AAB71432 standard; peptide; 15 AA.
XX
AC AAB71432;
XX
DT 27-NOV-2002 (first entry)
XX
DE Peptide Arg Helix #3 for construction of Tris-Arg helix #3.
XX
KW Sepsis; branched chain peptide; antibacterial; immunosuppressive;
KW endotoxin; helix peptide.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Modified-site 1
FT /note= "This residue has a side chain
FT C(O)-NepsilonH-(CH2)3-Tris-ArgHel#3, where
FT the Tris-ArgHel#3 is represented in AAB71431"
FT Modified-site 16
FT /note= "Acylated residue"
XX
PN EP1232754-A2.
XX
PD 21-AUG-2002.
XX
PF 14-FEB-2002; 2002EP-0251027.
XX
PR 14-FEB-2001; 2001US-268410P.
XX
PA (COMM-) COMMONWEALTH BIOTECHNOLOGIES INC.
XX
PI Harris RB, Wolz RL, Wolz G;
XX
DR WPI; 2002-659478/71.
XX
PT Use of cationic helix peptides for treatment of sepsis and for the
PT detection and removal of endotoxins -
XX
PS Disclosure; Fig 2; 18pp; English.
XX
CC This invention describes a novel use of antibacterial and
CC immunosuppressive peptides designated Arg Helix 2, Bis Arg Helix 2,
CC Tetra-Arg Helix 2 or Tris-Arg Helix 3 for the manufacture of a medicament
CC for the treatment of sepsis and the detection and removal of endotoxins.
CC The peptides of the invention are used in a method for detecting
CC endotoxin in a sample comprising contacting the sample with a labelled
CC helix peptide and then detecting the presence of any labelled molecule
CC bound to endotoxin. The peptides can also be used in a method for
CC removing endotoxin in a sample which comprises exposing the sample to a
CC helix peptide, bound to a solid support, then collecting the sample. The
CC endotoxin removal may be in vivo, or the peptides may be used to form an
CC affinity trap for endotoxins in e.g. dialysis-type treatments, or for
CC removal of endotoxins from plasma fractionation products. They are also
CC used as model frameworks for endotoxin binding from which new analogues
CC may be designed. This sequence represents the peptide Arg Helix #3 which
CC is used in the construction of the branched chain peptide Tris-Arg Helix
CC #3 described in the method of the invention.
XX
SQ Sequence 15 AA;

Query Match 78.9%; Score 15; DB 23; Length 15;
Best Local Similarity 100.0%; Pred. No. 8.5e-07;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 5 RRAARAAARRARAEA 19
|||||||||||||||
Db 1 RRAARAAARRARAEA 15

RESULT 5
AAY25078
ID AAY25078 standard; peptide; 11 AA.
XX
AC AAY25078;
XX
DT 24-AUG-1999 (first entry)
XX
DE Transduction protein peptide motif 3.
XX
KW Anti-pathogen; fusion protein; protein transduction domain; PTD; AZT;
KW cytotoxic domain; suppressor; infection; medicament; ddI; ddC; d4T; 3TC;
KW FTC; DAPD; 1592U89; CS92; acyclovir; ganciclovir; peniclovir; interferon;
KW apoptosis; virus; HIV; cytomegalovirus; CMV; herpes simplex virus; HSV-1;
KW hepatitis virus; Kaposi's sarcoma-associated herpes virus; KSHV;
KW herpes virus; yellow fever virus; flavivirus; rhinovirus; plasmodial;
KW transduction efficiency; cytotoxin.
XX
OS Unidentified.
XX
PN WO9929721-A1.
XX
PD 17-JUN-1999.
XX
PF 10-DEC-1998; 98WO-US26358.
XX
PR 20-APR-1998; 98US-0082402.
PR 10-DEC-1997; 97US-0069012.
XX
PA (UNIW) UNIV WASHINGTON.
XX
PI Dowdy SF;
XX
DR WPI; 1999-394958/33.
XX
PT New anti-pathogen systems, particularly for virus and plasmodium
PT infections
XX
PS Claim 69; Page 37; 123pp; English.
XX
CC This invention describes a novel anti-pathogen system (APS) comprising a
CC fusion protein constructed from a covalently linked protein transduction
CC domain (PTD) and a cytotoxic domain. The APS can be used for suppressing
CC a pathogen infection in a mammal. The method may further comprise
CC administering a medicament e.g. AZT, ddI, ddC, d4T, 3TC, FTC, DAPD,
CC 1592U89, CS92, acyclovir, ganciclovir, peniclovir or an interferon. The
CC APS can also be administered to a mammal in the presence of a pathogen to
CC induce apoptosis in a predetermined population of cells. The products can
CC be used for treating mammals suffering from or susceptible to a viral
CC infection or a disease associated with a virus, e.g. HIV, cytomegalovirus
CC (CMV), herpes simplex virus, e.g. type 1 (HSV-1) hepatitis virus, type C
CC (HCV), Kaposi's sarcoma-associated herpes virus (KSHV or human herpes
CC virus 8), yellow fever virus, flavivirus or rhinovirus, or suffering from
CC or susceptible to plasmodial infection or a disease associated with a
CC plasmodial infection, e.g. P. falciparum, P. vivax, P. ovale, or
CC P. malariae. The APS exhibits high transduction efficiency and
CC specifically kills or injures cells infected by one or more pathogens.

CC Formation of the cytotoxin is minimized or eliminated in uninfected cells
CC and in infected cells that keep the pathogen inactive. The APS can be
CC specifically tailored to kill or injure cells infected by one or more
CC pathogen strains. This sequence represents a transduction protein motif
CC described in the invention.
XX
SQ Sequence 11 AA;

Query Match 52.6%; Score 10; DB 20; Length 11;
Best Local Similarity 100.0%; Pred. No. 0.014;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ARAARRAARA 10
||||||||||
Db 2 ARAARRAARA 11

RESULT 6
AAB29419
ID AAB29419 standard; peptide; 11 AA.
XX
AC AAB29419;
XX
DT 09-FEB-2001 (first entry)
XX
DE Synthetic transduction peptide, SEQ ID NO:6.
XX
KW Protein transduction domain; fusion molecule; therapeutic agent;
KW drug targetting; drug discovery; cell transduction; bioavailability;
KW vaccine; nervous system disorder; Alzheimer's disease;
KW Parkinson's disease; Huntington's disease; pre-senile dementia; epilepsy;
KW seizure; compulsive behaviour; meningitis; encephalitis; ischaemia;
KW spongiform encephalopathy; dyslexia; age-related memory loss;
KW Lou Gehring's disease; viral infection; HIV; bacterial infection.
XX
OS Synthetic.
XX
PN WO200062067-A1.
XX
PD 19-OCT-2000.
XX
PF 28-FEB-2000; 2000WO-US05097.
XX
PR 28-FEB-1999; 99US-0122757.
PR 29-AUG-1999; 99US-0151291.
XX
PA (UNIW) UNIV WASHINGTON.
XX
PI Dowdy SF;
XX
DR WPI; 2000-647439/62.
XX
PT Fusion molecules comprising protein transduction domains and
PT therapeutic agents, useful for treating e.g. Alzheimer's and
PT Parkinson's diseases, dementia and epilepsy -
XX
PS Claim 36; Page 147; 191pp; English.
XX
CC The invention relates to a novel fusion molecule comprising at least
CC one protein transduction domain (PTD) and at least one linked molecule,
CC where the linked molecule has therapeutic or prophylactic activity
CC against a medical condition. The invention also relates to methods of
CC drug discovery in which the test compound is linked to a suitable
CC transducing protein and introduced to a cell; a method of killing
CC resistant microorganisms using a suitable fusion molecule; a mammal
CC comprising a covalently linked fusion molecule; and a mammal adapted for
CC experimental use in which at least one transduction molecule has been
CC transduced into essentially all the cells of the mammal. The fusion
CC molecule is used to deliver a therapeutic agent to a mammal, especially
CC a human. The linked molecule may be a vaccine, an anti-infective drug,
CC a cardiovascular drug, an antitumour drug, an analgesic, an
CC antiinflammatory, a diagnostic marker or a drug for the treatment or
CC prevention of a central or peripheral nervous system disorder. The
CC central nervous system (CNS) disorder is especially Alzheimer's disease,
CC Parkinson's disease, Huntington's disease, and also includes pre-senile
CC dementia, epilepsy and seizures, compulsive behaviour, meningitis
CC (including viral and bacterial meningitis), encephalitis, ischaemia,
CC scrapie (or related spongiform encephalopathies), dyslexia, age-related
CC memory loss or Lou Gehring's disease. Fusion molecules can also be
CC used to kill virally infected cells, especially those infected with HIV.
CC The vaccines are used to treat or prevent bacterial or viral infections.
CC The methods are a highly effective means for transducing a molecule
CC into an entire mammal or into specific cells, tissues, organs and
CC systems within it. They also overcome bioavailability problems that
CC are associated with many therapeutic agents (e.g., large molecular size,
CC hydrophobicity, hydrophilicity, biological resistance), by providing
CC efficient transduction of the target cell. The present sequence
CC represents a specifically claimed protein transduction domain.
XX
SQ Sequence 11 AA;

Query Match 52.6%; Score 10; DB 21; Length 11;
Best Local Similarity 100.0%; Pred. No. 0.014;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ARAARRAARA 10
||||||||||
Db 2 ARAARRAARA 11

RESULT 7
AAY93547
ID AAY93547 standard; Peptide; 11 AA.
XX
AC AAY93547;
XX
DT 25-SEP-2000 (first entry)
XX
DE Amino acid sequence of a synthetic protein transduction domain.
XX
KW Protein transduction system; protein transduction domain;
KW cytotoxic domain; pathogen infection; retroviral infection;
KW plasmodial infection; cancer; prostate cancer.
XX
OS Synthetic.
XX
PN WO200034308-A2.
XX
PD 15-JUN-2000.
XX
PF 10-DEC-1999; 99WO-US29289.
XX
PR 10-DEC-1998; 98US-0111701.
XX
PA (UNIW) UNIV WASHINGTON.
XX
PI Dowdy SF;
XX
DR WPI; 2000-431269/37.
XX
PT Protein transduction system for treating cancer and pathogenic
PT infections has a fusion protein comprising a protein transduction
PT domain covalently linked to a cytotoxic domain -
XX
PS Claim 69; Page 99; 127pp; English.
XX
CC AAY93542-51 represent synthetic protein transduction domains, which
CC are used in the protein transduction system of the invention. The
CC specification describes a protein transduction system, which comprises
CC a fusion protein. This fusion protein has a covalently linked protein
CC transduction domain and cytotoxic domain. The system is useful for
CC treating pathogen infection in mammals, infections such as those
CC caused by CMV, HSV-1, HCV, KSHV, yellow fever virus, flavivirus or
CC rhinovirus, retroviral infections such as HIV-1, HIV-2, HTVL-3 and/or
CC LAV, plasmodial infections associated with P.faciparum, P.vivax,
CC P.ovale, P.malariae. It is also useful for treating cancer, especially

```
CC   prostate cancer.
XX
SQ   Sequence   11 AA;

  Query Match            52.6%;  Score 10;  DB 21;  Length 11;
  Best Local Similarity  100.0%;  Pred. No. 0.014;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ARAARRAARA 10
              ||||||||||
Db          2 ARAARRAARA 11


RESULT 8
AAE05278
ID   AAE05278 standard; peptide; 11 AA.
XX
AC   AAE05278;
XX
DT   12-SEP-2001  (first entry)
XX
DE   Human immunodeficiency virus (HIV) TAT mutant peptide #5.
XX
KW   DNA recombinase domain; protein transduction domain; PTD; mutant;
KW   gene alteration; TAT protein; mutein; Human immunodeficiency virus;
KW   HIV.
XX
OS   Human immunodeficiency virus.
OS   Synthetic.
XX
PN   WO200149832-A2.
XX
PD   12-JUL-2001.
XX
PF   05-JAN-2001; 2001WO-EP00060.
XX
PR   07-JAN-2000; 2000EP-0100351.
PR   10-NOV-2000; 2000EP-0124595.
XX
PA   (ARTE-) ARTEMIS PHARM GMBH.
XX
PI   Schwenk F;
XX
DR   WPI; 2001-441873/47.
XX
PT   Using site-specific DNA recombinase domain/protein transduction domain
PT   fusion proteins for inducing target gene alterations in organisms or
PT   cell cultures -
XX
PS   Claim 5; Page 71; 85pp; English.
XX
CC   The present invention relates to use of fusion proteins comprising
CC   a site-specific DNA recombinase domain e.g. Cre and a protein
CC   transduction domain (PTD) e.g. the Human immunodeficiency virus
CC   (HIV) derived TAT peptide, for preparing an agent for inducing
CC   target gene alterations in a living organism or cell culture. The
CC   present invention also provides a method for inducing gene
CC   alterations in living organisms using the fusion proteins of the
CC   invention. The present sequence is a HIV TAT mutant peptide.
XX
SQ   Sequence   11 AA;

  Query Match            52.6%;  Score 10;  DB 22;  Length 11;
  Best Local Similarity  100.0%;  Pred. No. 0.014;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ARAARRAARA 10
              ||||||||||
Db          2 ARAARRAARA 11


RESULT 9
AAU76085
ID   AAU76085 standard; peptide; 11 AA.
XX
AC   AAU76085;
XX
DT   08-MAY-2002  (first entry)
XX
DE   Peptide transport moiety #4.
XX
KW   Nociceptin; opioid receptor-like 1; ORL1; hypoatraemia;
KW   coronary heart failure; diuretic therapy; thiazide; loop diuretic;
KW   water diuresis; congestive heart failure; liver cirrhosis;
KW   nephrotic syndrome; hypertension; multiple organ failure;
KW   acute renal failure; hypokalaemia; oedema; transport moiety.
XX
OS   Synthetic.
XX
PN   WO200198324-A1.
XX
PD   27-DEC-2001.
XX
PF   15-JUN-2001; 2001WO-US19113.
XX
PR   16-JUN-2000; 2000DK-0000944.
PR   05-OCT-2000; 2000DK-0001485.
PR   06-DEC-2000; 2000US-251671P.
PR   13-JUN-2001; 2001WO-US41008.
XX
PA   (ZEAL-) ZEALAND PHARM AS.
XX
PI   Larsen BD,  Petersen JS,  Kapusta DR,  Harlow KW;
XX
DR   WPI; 2002-171551/22.
XX
PT   New peptide conjugate useful for preparing medicament for treating
PT   congestive heart failure, liver cirrhosis, nephrotic syndrome and
PT   hypertension comprises modified N and/or C terminals -
XX
PS   Claim 10; Page 51; 72pp; English.
XX
CC   The invention relates to a peptide conjugate of the general formula (A).
CC   R_1-Z-X-Z'-R_2 (A); where X = a hexapeptide of formula (B);
CC   A^1-A^2-A^3-A^4-A^5-A^6 (B); A^1 = R, K, or H; A^2 = Y, W, or F; A^3 = Y,
CC   N, W or F; A^4 = K, R or H; A^5 = F, Y, W, L, V or I; and A^6 = R, K or
CC   H. Each amino acid residue in the hexapeptide may be in the L or D
CC   form, Z and Z' = a charged peptide chain of 4-20 amino acid residues
CC   having the D or L configuration or is missing provided that not both of Z
CC   and Z' are missing; R^1 = H or an acyl group; and R^2 = NR^3R^4 or OH;
CC   R^3, R^4 = H, C(1-6)alkoxy, aryloxy or a lower alkyl as defined,
CC   where the conjugate being optionally further linked to a transport
CC   moiety, and salts, hydrates and their solvates, and C-terminally amidated
CC   or their esterified derivatives with suitable organic or inorganic acids.
CC   Alternatively, the conjugate has a general formula (C). R_1-X-Z'-R_2 (C),
CC   Where R_1, X, Z' and R_2 are same as defined in formula A; and salts,
CC   hydrates and their solvates, and C-terminally amidated or their
CC   esterified derivatives with suitable organic or inorganic acids.
CC   The conjugate may also be linked to counterions selected from anions,
CC   preferably CH_3COO-, CF_3COO-, Cl-, SO_3^2^-, maleate or oleate. Also
CC   included are nucleic acids encoding the peptides, a host cell comprising/
CC   expressing the peptides and antibodies against the peptides.
CC   The peptides and conjugates are useful for the preparation of a
CC   medicament for the treatment and/or prevention of hypoatraemia which is
CC   preferably associated with heart failure, or with intensive diuretic
CC   therapy with thiazides and/or loop diuretics, water diuresis, congestive
CC   heart failure, liver cirrhosis, nephrotic syndrome and hypertension,
CC   multiple organ failure, acute renal failure, disease states associated
CC   with elevated tone of nociceptin, hypokalaemia, oedema associated with
CC   coronary heart failure. The hexapeptides are in part based on the
CC   sequence of formula (RK)YY(RK)(WI)(RK), a partial agonist of the
CC   nociceptin, opioid receptor-like one (ORL1) which can be used to raise
CC   antibodies against the conjugates. The present sequence is a peptide
CC   transport moiety which may be included in a peptide conjugate of the
CC   invention.
XX
```

```
SQ   Sequence   11 AA;

  Query Match            52.6%;  Score 10;  DB 23;  Length 11;
  Best Local Similarity  100.0%;  Pred. No. 0.014;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ARAARRAARA 10
              ||||||||||
Db          2 ARAARRAARA 11


RESULT 10
ABP56078
ID   ABP56078 standard; Peptide; 11 AA.
XX
AC   ABP56078;
XX
DT   27-FEB-2003  (first entry)
XX
DE   Protein transduction domain (PTD) peptide #4.
XX
KW   Cancer cell death; cancer; tumour; protein transduction domain; CAV;
KW   chicken anaemia virus; cytostatic; proliferative cell disorder;
KW   carcinogenesis; metastasis.
XX
OS   Unidentified.
XX
PN   WO200285305-A2.
XX
PD   31-OCT-2002.
XX
PF   24-APR-2002; 2002WO-US13092.
XX
PR   24-APR-2001; 2001US-286099P.
XX
PA   (UNIW ) UNIV WASHINGTON.
XX
PI   Dowdy SF,  Ezhevsky SA,  Wadia JS;
XX
DR   WPI; 2003-093056/08.
XX
PT   Novel fusion molecule useful for preventing or treating cancer,
PT   comprises a protein transduction domain and a chicken anemia virus VP3
PT   molecule  -
XX
PS   Claim 24; Page 68; 104pp; English.
XX
CC   The present invention describes a fusion molecule (I) comprising at least
CC   one protein transduction domain (PTD) and at least one chicken anaemia
CC   virus (CAV) VP3 molecule. (I) has cytostatic activity and can be used for
CC   inducing cell death. (I) is useful for detecting cancerous or pre-
CC   cancerous cells in a mammal or for killing or injuring cancerous or
CC   pre-cancerous cells in a mammal. (I) is useful as a magnetic bullet to
CC   selectively kill cancer cells in vitro and in vivo, for inducing cell
CC   death, and for preventing or treating cancer and related proliferative
CC   disorders. (I) is also useful for studying mechanisms of carcinogenesis
CC   and metastases eukaryotic cells. (I) effectively transduces VP3 molecules
CC   directly into the cells. (I) attacks cancer and pre-cancerous cells while
CC   leaving normal cells relatively unharmed. Since more cells can be
CC   targeted by (I) when compared with past attempts using different VP3
CC   constructs, potential for patient relapse and side-effects are greatly
CC   reduced. The present sequence represents a specifically claimed PTD
CC   peptide which is given in the exemplification of the present invention.
XX
SQ   Sequence   11 AA;

  Query Match            52.6%;  Score 10;  DB 24;  Length 11;
  Best Local Similarity  100.0%;  Pred. No. 0.014;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ARAARRAARA 10
              ||||||||||
Db          2 ARAARRAARA 11


RESULT 11
AAW41503
ID   AAW41503 standard; peptide; 19 AA.
XX
AC   AAW41503;
XX
DT   05-JUN-1998  (first entry)
XX
DE   Heparin binding peptide.
XX
KW   Heparin binding peptide; anticoagulant antagonist; protamine;
KW   insulin formulation; diabetes.
XX
OS   Synthetic.
XX
PN   WO9747312-A1.
XX
PD   18-DEC-1997.
XX
PF   03-JUN-1997;   97WO-US09037.
XX
PR   11-JUN-1996;   96US-0660592.
XX
PA   (COMM-) COMMONWEALTH BIOTECHNOLOGIES INC.
XX
PI   Harris RB,  Sobel M;
XX
DR   WPI; 1998-052023/05.
XX
PT   New peptide compounds - are useful as heparin binding molecules
PT   which do not cause haemodynamic side effects
XX
PS   Claim 1; Page 43; 62pp; English.
XX
CC   The present heparin binding peptide can be used to antagonise or
CC   neutralise the anticoagulant activity of heparin. It can also be
CC   used to replace protamine in insulin formulations for
CC   administration to diabetics.
CC   The peptide can safely and specifically neutralise heparin's
CC   anticoagulant properties, without causing deleterious haemodynamic
CC   side-effects or exacerbating the proliferative vascular response to
CC   injury.
XX
SQ   Sequence   19 AA;

  Query Match            52.6%;  Score 10;  DB 19;  Length 19;
  Best Local Similarity  100.0%;  Pred. No. 0.021;
  Matches   10;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 ARAARRAARA 10
              ||||||||||
Db         10 ARAARRAARA 19


RESULT 12
AAY87836
ID   AAY87836 standard; peptide; 19 AA.
XX
AC   AAY87836;
XX
DT   01-SEP-2000  (first entry)
XX
DE   Heparin binding peptide Arg helix #2.
XX
KW   Heparin binding peptide; antagonist; cardiovascular; coagulant;
KW   bleeding wound; vascular anastomoses; leaking prosthetic vascular graft;
KW   protamine substitute; treatment.
XX
OS   Synthetic.
XX
PN   EP999219-A2.
```

XX
PD 10-MAY-2000.
XX
PF 01-OCT-1999; 99EP-0119514.
XX
PR 06-OCT-1998; 98US-0166930.
XX
PA (COMM-) COMMONWEALTH BIOTECHNOLOGIES INC.
XX
PI Harris RB, Sobel M;
XX
DR WPI; 2000-306006/27.
XX
PT New heparin binding molecules, useful for reducing heparin content in a
PT mammal by reducing the anticoagulant effects of heparin -
XX
PS Example 1; Page 8; 39pp; English.
XX
CC This invention describes novel heparin binding molecules (I). The
CC molecules (I) are useful as heparin antagonist drugs for cardiovascular
CC application and specifically neutralize heparin's conventional
CC anticoagulant properties. (I) are also useful for counteracting actions
CC of heparin locally e.g. in bleeding wounds, vascular anastomoses or
CC leaking prosthetic vascular grafts. (I) is also useful combined in a
CC pharmaceutical composition with insulin, as a substitute for protamine
CC for use in treating diabetics. The heparin binding molecules (I)
CC specifically neutralize heparin's conventional anticoagulant properties
CC without causing deleterious hemodynamic side-effects or exacerbation of
CC the proliferative vascular response to injury. (I) are short-duration,
CC intravenous drugs to be used in elective or emergency situations which
CC can safely and specifically neutralize heparin's proliferative response
CC to injury. This sequence represents a heparin-binding peptide described
CC in the method of the invention.
XX
SQ Sequence 19 AA;

Query Match 52.6%; Score 10; DB 21; Length 19;
Best Local Similarity 100.0%; Pred. No. 0.021;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ARAARRAARA 10
||||||||||
Db 10 ARAARRAARA 19

RESULT 13
AAB71429
ID AAB71429 standard; peptide; 19 AA.
XX
AC AAB71429;
XX
DT 27-NOV-2002 (first entry)
XX
DE Peptide Bis-Arg Helix #2 fragment #2.
XX
KW Sepsis; branched chain peptide; antibacterial; immunosuppressive;
KW endotoxin; helix peptide.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT Modified-site 1
FT /note= "Ala is modified by unidentified R1 group"
XX
PN EP1232754-A2.
XX
PD 21-AUG-2002.
XX
PF 14-FEB-2002; 2002EP-0251027.
XX
PR 14-FEB-2001; 2001US-268410P.
XX
PA (COMM-) COMMONWEALTH BIOTECHNOLOGIES INC.
XX
PI Harris RB, Wolz RL, Wolz G;
XX
DR WPI; 2002-659478/71.
XX
PT Use of cationic helix peptides for treatment of sepsis and for the
PT detection and removal of endotoxins -
XX
PS Disclosure; Fig 1A; 18pp; English.
XX
CC This invention describes a novel use of antibacterial and
CC immunosuppressive peptides designated Arg Helix 2, Bis Arg Helix 2,
CC Tetra-Arg Helix 2 or Tris-Arg Helix 3 for the manufacture of a medicament
CC for the treatment of sepsis and the detection and removal of endotoxins.
CC The peptides of the invention are used in a method for detecting
CC endotoxin in a sample comprising contacting the sample with a labelled
CC helix peptide and then detecting the presence of any labelled molecule
CC bound to endotoxin. The peptides can also be used in a method for
CC removing endotoxin in a sample which comprises exposing the sample to a
CC helix peptide, bound to a solid support, then collecting the sample. The
CC endotoxin removal may be in vivo, or the peptides may be used to form an
CC affinity trap for endotoxins in e.g. dialysis-type treatments, or for
CC removal of endotoxins from plasma fractionation products. They are also
CC used as model frameworks for endotoxin binding from which new analogues
CC may be designed. This sequence represents the peptide Arg Helix #2 which
CC is used in the construction of Bis-Arg Helix #2, a branched chain peptide
CC described in the method of the invention.
XX
SQ Sequence 19 AA;

Query Match 52.6%; Score 10; DB 23; Length 19;
Best Local Similarity 100.0%; Pred. No. 0.021;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ARAARRAARA 10
||||||||||
Db 10 ARAARRAARA 19

RESULT 14
AAY25077
ID AAY25077 standard; peptide; 11 AA.
XX
AC AAY25077;
XX
DT 24-AUG-1999 (first entry)
XX
DE Transduction protein peptide motif 2.
XX
KW Anti-pathogen; fusion protein; protein transduction domain; PTD; AZT;
KW cytotoxic domain; suppressor; infection; medicament; ddI; ddC; d4T; 3TC;
KW FTC; DAPD; 1592U89; CS92; acyclovir; ganciclovir; peniclovir; interferon;
KW apoptosis; virus; HIV; cytomegalovirus; CMV; herpes simplex virus; HSV-1;
KW hepatitis virus; Kaposi's sarcoma-associated herpes virus; KSHV;
KW herpes virus; yellow fever virus; flavivirus; rhinovirus; plasmodial;
KW transduction efficiency; cytotoxin.
XX
OS Unidentified.
XX
PN WO9929721-A1.
XX
PD 17-JUN-1999.
XX
PF 10-DEC-1998; 98WO-US26358.
XX
PR 20-APR-1998; 98US-0082402.
PR 10-DEC-1997; 97US-0069012.
XX
PA (UNIW) UNIV WASHINGTON.
XX
PI Dowdy SF;
XX
DR WPI; 1999-394958/33.

XX
PT New anti-pathogen systems, particularly for virus and plasmodium
PT infections
XX
PS Claim 68; Page 37; 123pp; English.
XX
CC This invention describes a novel anti-pathogen system (APS) comprising a
CC fusion protein constructed from a covalently linked protein transduction
CC domain (PTD) and a cytotoxic domain. The APS can be used for suppressing
CC a pathogen infection in a mammal. The method may further comprise
CC administering a medicament e.g. AZT, ddI, ddC, d4T, 3TC, FTC, DAPD,
CC 1592U89, CS92, acyclovir, ganciclovir, peniclovir or an interferon. The
CC APS can also be administered to a mammal in the presence of a pathogen to
CC induce apoptosis in a predetermined population of cells. The products can
CC be used for treating mammals suffering from or susceptible to a viral
CC infection or a disease associated with a virus, e.g. HIV, cytomegalovirus
CC (CMV), herpes simplex virus, e.g. type 1 (HSV-1) hepatitis virus, type C
CC (HCV), Kaposi's sarcoma-associated herpes virus (KSHV or human herpes
CC virus 8), yellow fever virus, flavivirus or rhinovirus, or suffering from
CC or susceptible to plasmodial infection or a disease associated with a
CC plasmodial infection, e.g. P. falciparum, P. vivax, P. ovale, or
CC P. malariae. The APS exhibits high transduction efficiency and
CC specifically kills or injures cells infected by one or more pathogens.
CC Formation of the cytotoxin is minimized or eliminated in uninfected cells
CC and in infected cells that keep the pathogen inactive. The APS can be
CC specifically tailored to kill or injure cells infected by one or more
CC pathogen strains. This sequence represents a transduction protein motif
CC described in the invention.
XX
SQ Sequence 11 AA;

Query Match 47.4%; Score 9; DB 20; Length 11;
Best Local Similarity 100.0%; Pred. No. 0.099;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 ARAARRAAR 9
              |||||||||
Db          2 ARAARRAAR 10
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RESULT 15
AAB29418
ID AAB29418 standard; peptide; 11 AA.
XX
AC AAB29418;
XX
DT 09-FEB-2001 (first entry)
XX
DE Synthetic transduction peptide, SEQ ID NO:5.
XX
KW Protein transduction domain; fusion molecule; therapeutic agent;
KW drug targetting; drug discovery; cell transduction; bioavailability;
KW vaccine; nervous system disorder; Alzheimer's disease;
KW Parkinson's disease; Huntington's disease; pre-senile dementia; epilepsy;
KW seizure; compulsive behaviour; meningitis; encephalitis; ischaemia;
KW spongiform encephalopathy; dyslexia; age-related memory loss;
KW Lou Gehring's disease; viral infection; HIV; bacterial infection.
XX
OS Synthetic.
XX
PN WO200062067-A1.
XX
PD 19-OCT-2000.
XX
PF 28-FEB-2000; 2000WO-US05097.
XX
PR 28-FEB-1999; 99US-0122757.
PR 29-AUG-1999; 99US-0151291.
XX
PA (UNIW) UNIV WASHINGTON.
XX
PI Dowdy SF;
XX
DR WPI; 2000-647439/62.
XX
PT Fusion molecules comprising protein transduction domains and
PT therapeutic agents, useful for treating e.g. Alzheimer's and
PT Parkinson's diseases, dementia and epilepsy -
XX
PS Claim 36; Page 147; 191pp; English.
XX
CC The invention relates to a novel fusion molecule comprising at least
CC one protein transduction domain (PTD) and at least one linked molecule,
CC where the linked molecule has therapeutic or prophylactic activity
CC against a medical condition. The invention also relates to methods of
CC drug discovery in which the test compound is linked to a suitable
CC transducing protein and introduced to a cell; a method of killing
CC resistant microorganisms using a suitable fusion molecule; a mammal
CC comprising a covalently linked fusion molecule; and a mammal adapted for
CC experimental use in which at least one transduction molecule has been
CC transduced into essentially all the cells of the mammal. The fusion
CC molecule is used to deliver a therapeutic agent to a mammal, especially
CC a human. The linked molecule may be a vaccine, an anti-infective drug,
CC a cardiovascular drug, an antitumour drug, an analgesic, an
CC antiinflammatory, a diagnostic marker or a drug for the treatment or
CC prevention of a central or peripheral nervous system disorder. The
CC central nervous system (CNS) disorder is especially Alzheimer's disease,
CC Parkinson's disease, Huntington's disease, and also includes pre-senile
CC dementia, epilepsy and seizures, compulsive behaviour, meningitis
CC (including viral and bacterial meningitis), encephalitis, ischaemia,
CC scrapie (or related spongiform encephalopathies), dyslexia, age-related
CC memory loss or Lou Gehring's disease. Fusion molecules can also be
CC used to kill virally infected cells, especially those infected with HIV.
CC The vaccines are used to treat or prevent bacterial or viral infections.
CC The methods are a highly effective means for transducing a molecule
CC into an entire mammal or into specific cells, tissues, organs and
CC systems within it. They also overcome bioavailability problems that
CC are associated with many therapeutic agents (e.g., large molecular size,
CC hydrophobicity, hydrophilicity, biological resistance), by providing
CC efficient transduction of the target cell. The present sequence
CC represents a specifically claimed protein transduction domain.
XX
SQ Sequence 11 AA;

Query Match 47.4%; Score 9; DB 21; Length 11;
Best Local Similarity 100.0%; Pred. No. 0.099;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 ARAARRAAR 9
              |||||||||
Db          2 ARAARRAAR 10
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Search completed: August 9, 2003, 16:29:05
Job time : 54.7429 secs